PUK10

KIT73 STUDY: RELATIONSHIP BETWEEN COSTS OF CARE AND 12-MONTH GLOMERULAR FILTRATION RATES IN POST-KIDNEY TRANSPLANT PATIENTS IN THE BRAZILIAN PUBLIC HEALTH CARE SYSTEM (SUS)

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OBJECTIVES: The objective of this study is to analyze the relationship between 12-month renal function and costs in post-kidney transplant patients from the Brazilian Public Health System (SUS) perspective. **METHODS:** Non-interventional, multicenter, retrospective medical chart review of patients that underwent kidney transplantation. Three years follow-up data on resource use and associated costs from adults (age≥18 years-old at time of transplantation), single kidney only transplants from Jan/2004 to Jan/2005 were collected from 7 transplant centers in Brazilian hospitals. Data were censored on graft loss. Estimated glomerular filtration rates (eGFR) at 12-month post-transplantation were calculated using the abbreviated Modification of Diet in Renal Disease equation and stratified according to the National Kidney Foundation K/Kidney Disease Outcomes Quality Initiative renal function categories. Costs were adjusted to year 2004 at an annual discount rate of 5% and converted to 2010 USD. Case mix group costing approach was used to determine average cost per day of hospitalization, stratified by cause (surgical or clinical complication) and type (general ward, ICU). **RESULTS:** 498 subjects were eligible for the analysis. Outpatient care resource use and associated costs (excluding costs with immunosuppressive therapy) did not significantly vary among patients in different eGFR categories, with average annual costs ranging from 664 and 921USD in the first year, 194 and 245USD in the second and 129 and 165USD in the third year post-transplantation. However, a trend towards of increasing inpatient costs ($p<0.001$) and incidence of hospitalization per year with declining of renal function was observed. After 3 years post-transplant, 41% of stage 1 Chronic Kidney Disease (CKD) and 91% of stage 4 patients were re-admited to the hospital at least once incurring an estimated average cost of 1,239 and 3,654USD, respectively. **CONCLUSIONS:** Renal function, measured by 12-month post-transplant eGFR, is an important determinant of costs of hospitalization in kidney graft recipients.

PUK11

UPDATED ECONOMIC ANALYSIS OF FESOTERODINE RELATIVE TO TOLTERODINE AND SOLIFENACIN FOR THE TREATMENT OF OVERACTIVE BLADDER: THE SWEDISH PERSPECTIVE

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OBJECTIVES: To quantify the cost-effectiveness of overactive bladder (OAB) treatment with fesoterodine (FESO) relative to extended release tolterodine (TER) and solifenancin (SOL) in Sweden based on recently-available data. **METHODS:** A 52-week decision-tree model was developed using data from four 12-week, randomized clinical trials and published literature. Patients who did not achieve resolution of urgency urinary incontinence (UUI) at week 4 were titrated to higher doses in the FESO and SOL model arms. TER is only available in one dose and all patients therefore remained on TER at week 4 regardless of UUI resolution. The published decrease in UUI episodes was used to estimate the proportion of UUI resolution with SOL. Trial discontinuation data were fit to a Weibull survival model and extrapolated to 52 weeks. Changes in health-related quality of life were assessed using Overactive Bladder Questionnaire data from two of the trials and were transformed into preference-based utility values. Regression analysis determinedthe association between trial utilities and micturition/UUI episodes in order to estimate values for SOL. Medical costs included antimuscarinic drugs, physician visits, laboratory tests, incontinence pads and costs of OAB- or incontinence-related comorbidities. Probabilistic sensitivity analysis was used to determine the impact of uncertainty in the model inputs on its outcomes. **RESULTS:** 19.5%, 18.0%, and 16.3% of patients receiving FESO, TER, and SOL, remained on treatment and were continent after 52 weeks. The respective quality-adjusted life years associated with FESO, TER, and SOL, were 0.762, 0.756 and 0.752; overall costs were kr16,752, kr16,849, and kr17,047, indicating that FESO is a lower-cost and more effective treatment option than TER and SOL. Sensitivity analysis confirmed the superiority of FESO in over 80% of model simulations. **CONCLUSIONS:** Results suggest FESO has lower costs and higher efficacy and thus dominates both TER and SOL in treating OAB with UUI in Sweden.

PUK12

COST-EFFECTIVENESS OF TOLTERODINE AS TREATMENT FOR OVERACTIVE BLADDER (OAB) IN ADULT MEXICAN PATIENTS

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OBJECTIVES: Worldwide prevalence of overactive bladder (OAB) is close to 10% in adults. The urgent feeling to go to the toilet, frequency of voids and urinary incontinence affects lifestyle and productivity of patients. The aim of this study was to estimate the cost-effectiveness of tolterodine in the managing of OAB from an institutional perspective. **METHODS:** A four-state Markov model was performed to estimate health and economic consequences during a time horizon of one year (one-month cycles). Effectiveness measures were mean percentage reduction in: number of voids per day, number of urinary urgency events per day and number of urinary incontinence events per day. Transition probabilities were obtained from a meta-analysis employing international published literature. Comparators were tolterodine (2 mg bid) and tablets of oxybutynin (5 mg tid) as reference treatment. Resource use was obtained from the Instituto Mexicano del Seguro Social (IMSS) databases (n=377 cases). Costs were extracted from institutional (IMSS) official sources. Costs included: visits to general practitioners and urologists, hospitalization, drugs, medical procedures, laboratory tests, imagenology and adverse events management. Probabilistic sensitivity analyses were performed employing bootstrapping techniques. Acceptability curves were constructed. **RESULTS:** Tolterodine and oxybutynin annual costs per patient were: US$1,654.55 [95%CI US$1,486.97-US$1,822.13] and US$1,537.38 [95%CI US$1,389.42-US$1,685.33], respectively ($p>0.05$). Tolterodine exhibits better outcomes than reference in all effectiveness measures considered ($p<0.05$). Incremental cost-effectiveness ratios for additional percentage reduction of: number of voids, events of urinary urgency and events of urinary incontinence were: US$1,307.34 [95%CI US$1,268.73-US$1,345.96]; US$1,091.39 [95%CI US$1,059.15-US$1,123.62] and US$ 2,915.31 [95%CI US$2,829.14-US$3,001.42], respectively. Acceptability curve showed that the probability of tolterodine being cost-effective is close to one at a willingness to pay of US$3,170 (regarding percent reduction of number of voids). **CONCLUSIONS:** Tolterodine is more effective than oxybutynin with similar treatment costs representing a more efficient alternative in the management of OAB at the IMSS.

PUK13

COST-EFFECTIVENESS ANALYSIS OF THE EARLY CONVERSION OF TACROLIMUS TO MTOR INHIBITORS IN PATIENTS WITH RENAL TRANSPLANTATION

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OBJECTIVES: To evaluate the cost-effectiveness of the early conversion of tacrolimus to mTOR inhibitors (mTORi) -sirolimus or everolimus- against continuous treatment with tacrolimus in patients with renal transplantation in Colombia. **METHODS:** A Markov model simulating patient's natural history with renal transplantation was constructed. The model was designed to predict the incidence of rejection episodes, associated deaths, adverse events and graft loss. An individual-level simulation was performed, generating 100,000 patients that started in the reject's free stage, using monthly cycles upon death or Colombian life-expectancy (76 years). The model assessed several risk factors (creatinine levels, rejection episodes and diabetes) associate to graft loss. The transition probabilities were extracted from a systematic review of published literature. Direct medical costs were gathered from official databases (SISMED's 2010 first semester and tariffs manuals). The third party payer's perspective was used in the analysis. The effectiveness measure used was: life - years gained (LYG). A 5 % discount rate was applied for the costs and health outcomes. Cost-effectiveness ratio (CER) and incremental cost-effectiveness ratio (ICER) were estimated. Lastly, deterministic and probabilistic sensitivity analyses were also performed. **RESULTS:** Compared to tacrolimus, sirolimus showed a favorable difference of 0.74 LYG (10.26 vs. 9.52); with a CER of US$37,302 and US$39,731; respectively. In addition, ICER between the two mentioned alternatives resulted in US$6,130. For everolimus no published evidence of efficacy was found for the evaluated scheme, therefore the effectiveness of everolimus was assumed similar to sirolimus exhibiting an ICER of US$ 70.440 against tacrolimus. Sensibility analyses modifying this last assumption showed the model results are robust. **CONCLUSIONS:** The study suggests that sirolimus strategy is cost-effective in Colombia for patients with renal transplantation using the 3 GDP per capita threshold as recommended by the World Health Organization.

PUK14

A MARKOV MODEL COMPARING SACRAL NEUROMODULATION AND BOTULINUM TOXIN-A FOR MEDICARE PATIENTS WITH IDIOPATHIC OVERACTIVE BLADDER REFRACTORY TO CONSERVATIVE CARE

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OBJECTIVES: Few published models comparing sacral nerve neuromodulation (SNM) with intravesical botulinum toxin-A injections (BTX) for the treatment of idiopathic overactive bladder (OAB) include comprehensive specifications of clinical pathways and costs. We developed a model that accurately captures the clinical and economic realities of SNM and BTX therapies. **METHODS:** Our Markov model, which takes the United States Medicare perspective, compares two cohorts of hypothetical patients with idiopathic OAB refractory to conservative care: those initiating with SNM (InterStim® Therapy, Medtronic, Inc. Minneapolis, MN) and those initiating with BTX (BOTOX®, Allergan, Irvine, CA). Both cohorts are similar and equally likely to receive either therapy. The time horizon is the SNM neurostimulator battery life (5.5 years). The model accounts for treatment success probabilities, adverse events (AEs), and SNM-related adjustments based on clinical literature and expert clinical input. Quality-adjusted life-years (QALYs) for persistent OAB and successful treatment come from National Overactive BLadder Evaluation (NOBLE) study. Patients not responding successfully to initial therapy discontinue or switch therapies (patients try each therapy once). Costs (manufacturer pricing and 2010 Medicare payment schedules) and benefits are discounted 3% per annum. **RESULTS:** At two years, SNM was more costly ($20,240 vs. $17,069 per patient) and more effective (1.60 vs. 1.56 QALYs per patient). SNM became less costly at 3 years.